

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Nyloncraft, Inc.

Michigan Manufacturing Technology Center

Nyloncraft: Successful Lean Implementation Leads to Sustainable Impact

Client Profile:

Nyloncraft, Inc., is a tier one injection molding supplier with over 40 years experience serving customers in the automotive industry. The company specializes in complex injection molding programs for interior trim, under hood and HVAC components. Nyloncraft employs 243 people at its facility in Jonesville, Michigan.

Situation:

Nyloncraft was introduced to the Michigan Manufacturing Technology Center (MMTC), a NIST MEP network affiliate, when they participated in MMTC's Performance Benchmarking Service in 2005. From there, MMTC and Nyloncraft worked together to create a training plan specific to the needs of its business. MMTC helped secure Incumbent Worker Training (IWT) dollars and Economic Development Job Training (EDJT) grant funds to assist Nyloncraft in implementing a comprehensive improvement plan.

Solution:

MMTC conducted a series of interviews with Nyloncraft's key staff, followed by an on-site assessment. Following the assessment, MMTC conducted internal training for Nyloncraft employees in Lean tools and implementation. Nyloncraft selected employees to participate in MMTC's Six Sigma Black Belt training, and followed it up with Six Sigma Green Belt training as well as having key management personnel attend a Managing Six Sigma course. Once initial training was complete, Nyloncraft Six Sigma champion Sue Walker helped oversee several key projects on multiple product lines. Six Sigma is designed to do in depth analysis on one specific issue and discover root causes. The benefit to Nyloncraft's implementation is that they are not only identifying the root causes, but also making process changes as they go to improve overall job satisfaction and standardize work across the company. One team of workers was able to create continuity across shifts and between departments with weekly meetings. "We now have a flowchart in place so all our press operators can follow it, helping to maintain machine optimization and quality parts," Walker said. While investigating one problem with a foam unit, six sigma team members discovered that adding a photograph to the work instructions would help eliminate confusion and reduce customer rejects of parts produced on the line. Adding an additional element to the monitoring process helped eliminate a drop in oil pressure that led to additional product inconsistencies. "It's nice to attach a big dollar savings to our six sigma tools and say 'here's the big return on our investment' but the biggest benefit has been the change in behavior and thought processes as we begin to see our manufacturing floor through new eyes. Things in the past that we might have overlooked or made allowances for now seem to demand our attention and we can see the opportunities," Walker said.

Six Sigma is more than a passing fad for the company. Nyloncraft has implemented it right into a new job skills level. Employees that seek to gain the status of Green Belt in its program must have green belt certification, TS internal audit training, and be involved in patrol audits and have some machine

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operation experience. "We feel that this helps bring a well rounded skill set to the six sigma process, and helps when we link six sigma team members with other internal technical staff to work together on specific areas," Walker stated. "We know they have the ability to make the changes and understand how it will affect every area of the business."

Nyloncraft again sought assistance from MMTC to secure additional funding to continue their Lean programs. Since that time, MMTC has conducted multiple kaizens, each with three to five days of focused activity. The most recent kaizens were devoted to Total Productive Maintenance (TPM). Two lines were selected for review. Nyloncraft invested a week of employee's time and MMTC specialists were on-site to assist. A thorough cleaning and 5S tools were implemented. Team members worked together to clean up, starting at the top of each machine and working down. Cords were moved or removed, oil and other hazards were eliminated, leaks were discovered and tagged for repair and debris, and other trash was collected. Initial cost savings from these two TPM kaizens was \$55,687. Removal of work hazards eliminated exposure to \$10,000 in workers' compensation claims. Additional savings were realized by cost avoidance measures including fixing loose wires, sealing air leaks, and reducing operator variance with standard work instructions. As a result of MMTC's assistance, Nyloncraft has seen an increase in sales with the potential for further new business directly related to process improvements and increased capacity.

Results:

- * Realized \$500,000 in cost savings.
- * Invested approximately \$300,000 in plant and equipment.
- * Achieved a more competitive and profitable position.

Testimonial:

"Our goal was to remove the defects from one process. We've completed one project, resulting in about \$50,000 in savings and some scrap reduction, but we're only halfway there. We've got another project to complete on the process and when we're done, we believe we can completely eliminate the need for sorting."

Sue Walker, Six Sigma Champion